

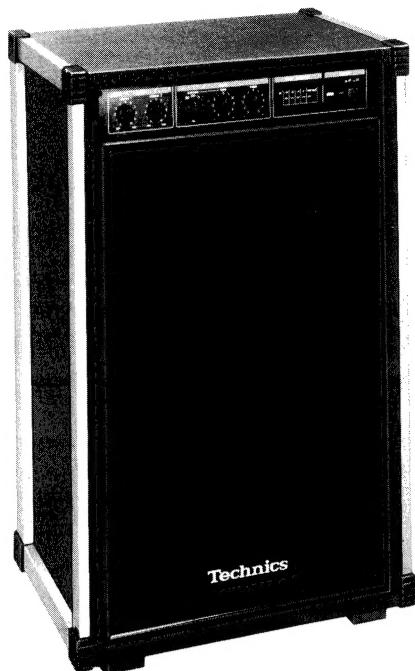
Service Manual

TONE CABINET

SY-T60

(EN), (ES), (ED), (EI), (EH), (EB), (EF),
 (EG), (EW), (EL), (EP), (MC), (XT),
 (EK), (XL), (XR), (XS), (X), (XX), (XV)

AREAS



(EN): Norway	(EK): the United Kingdom
(ES): Sweden	(MC): Canada
(ED): Denmark	(XT): Taiwan
(EI): Italy	(XL): New Zealand
(EH): Holland	(XR): Australia
(EB): Belgium	(XS): Malaysia, Singapore, South Africa
(EF): France	(X): the Middle Near East, Hong Kong, the Philippines, Indonesia
(EG): Germany, Austria	(XV): Venezuela, Ecuador, Panama
(EW): Switzerland	(XX): Peru, Chile
(EL): Finland	
(EP): Spain	

Specifications

Speakers:	30cm (11-13/16")×1, 16cm (6-5/16")×1, 5cm (1-31/32")×1
Output:	150W (RMS)
Input:	1: pin jack, large jack, volume control 2: pin jack, large jack, volume control
Tone controls:	treble, bass, bass-turnover
Load indicator:	green (-15, -8, -3, 0dB), red (overload)
Others:	power switch, power indicator
Power requirement:	400W, 350VA (Canada) AC 120/220/240V 50/60Hz AC 120V 60Hz—North America
Cabinet (W×H×D):	45cm (17-23/32")×65cm (25-19/32")×33.7cm (13-9/32")
Net weight:	36.4kg (80.2 lbs.)
Accessories:	pin-type cord×2, AC cord

Technics

Matsushita Electric Trading Co., Ltd.
 P.O. Box 288, Central Osaka Japan

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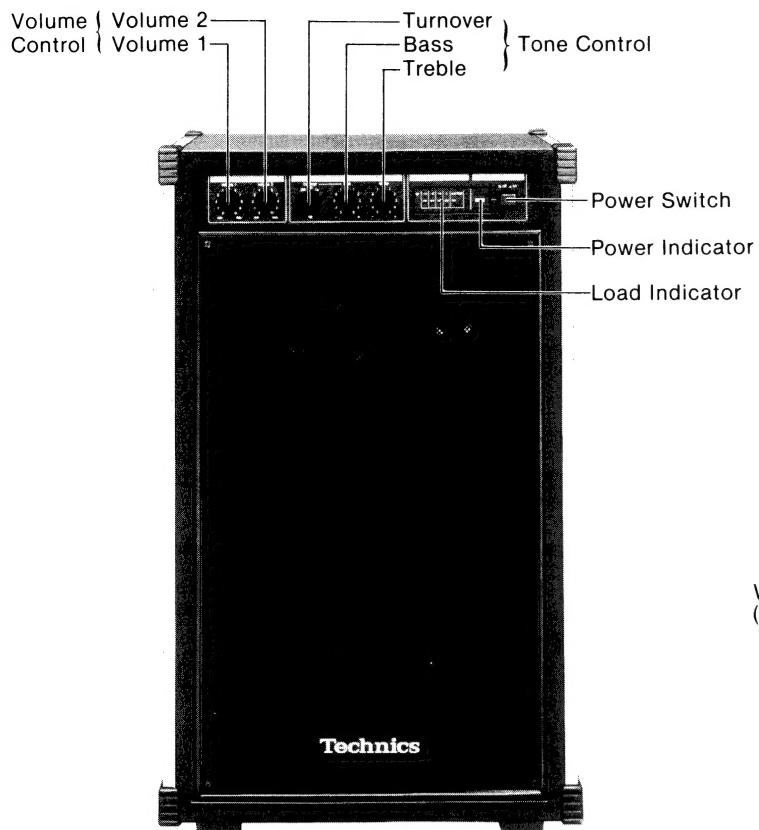
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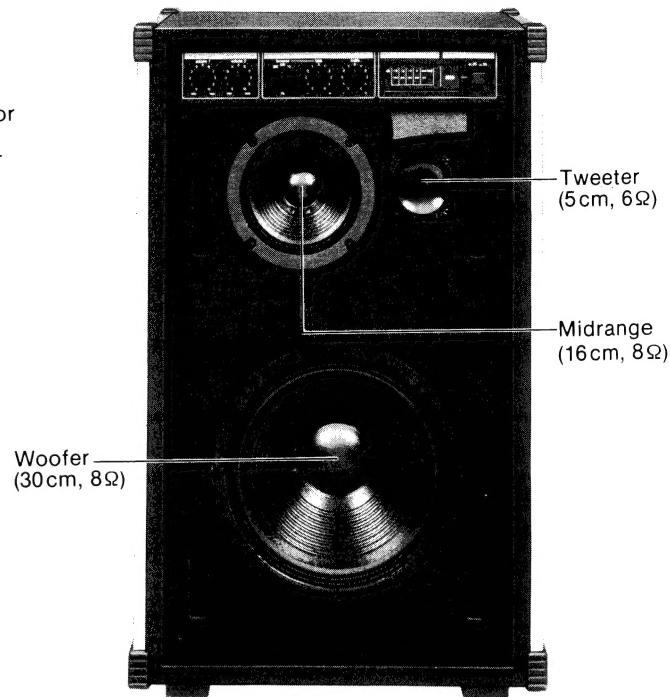
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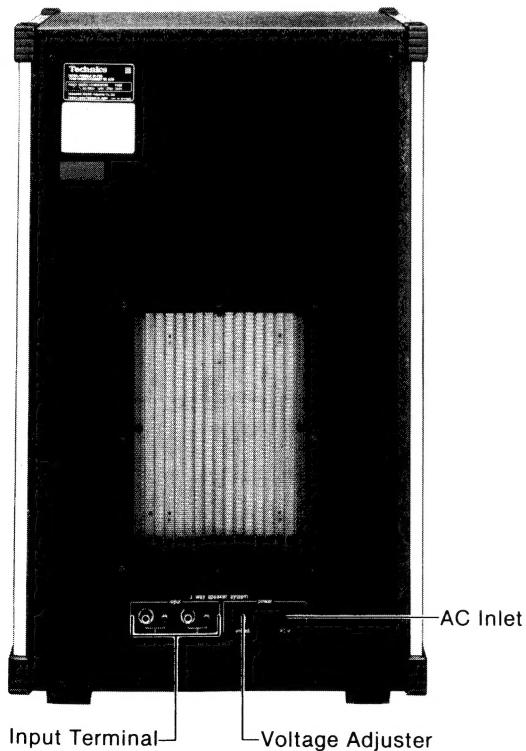
LOCATION OF CONTROLS



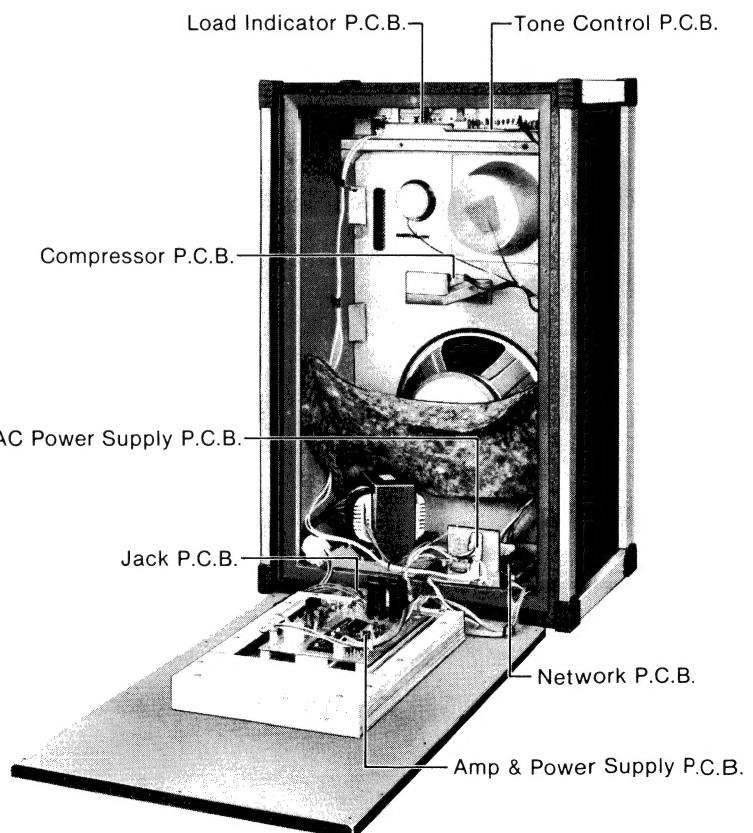
[Photo-1]



[Photo-2]



[Photo-3]



[Photo-4]

DISASSEMBLY INSTRUCTIONS

1. Speaker Gurille (Fig. 1)

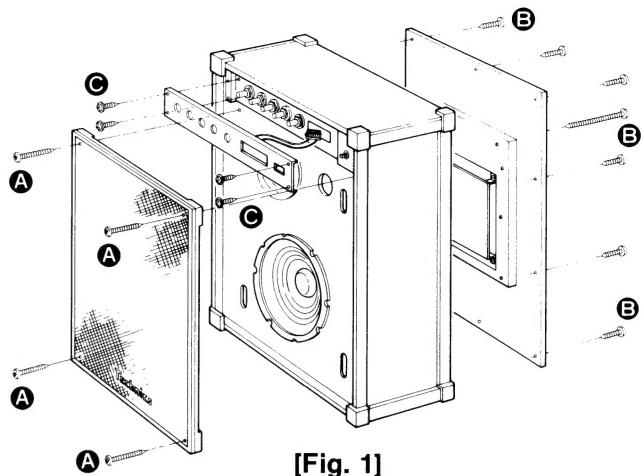
- Remove the 4 setscrews **A** which fasten the speaker gurille.
- The speaker gurille can be removed.

2. Rear Board (Fig. 1)

- Remove the 11 setscrews **B** located on the rear board.
- Then the rear board can be removed.

3. Control Panel (Fig. 1)

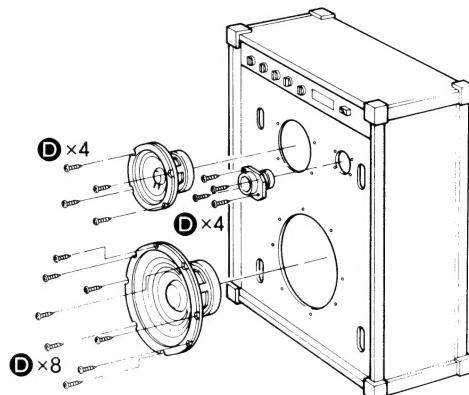
- Pull out the all knobs located on the control panel.
- Remove the 4 setscrews **C** which fasten the control panel.
- Then the control panel can be removed.



[Fig. 1]

4. Speakers (Fig. 2)

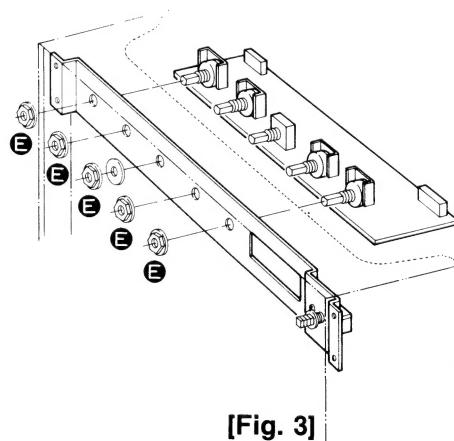
- Remove the speaker gurille according to step 1.
- Remove the 8 setscrews **D** which fasten the woofer (30cm), and pull out the pin connector of speaker terminal. (Midrange 16cm, Tweeter 5cm.....4 setscrews **D**)
- Then the each speakers can be removed.



[Fig. 2]

5. Tone Control P.C.B. (Fig. 3)

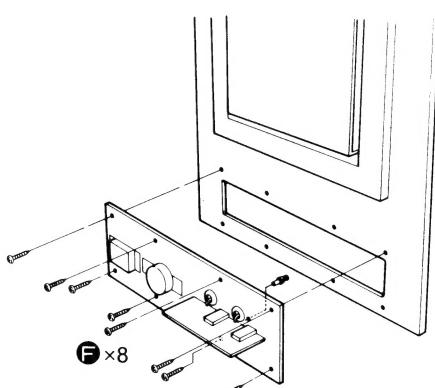
- Remove both rear board and control panel according to steps 2 and 3.
- Remove the 5 nuts **E** which fasten the each volumes, and pull out the tone control P.C.B. to rear side.
- Then the tone control P.C.B. can be removed.



[Fig. 3]

6. Jack Panel (Fig. 4)

- Remove the rear board according to step 2.
- Remove the 8 setscrews **F** which fasten the jack panel.
- Then the jack panel can be removed.



[Fig. 4]

TONE CONTROL CIRCUIT BOARD (TC)

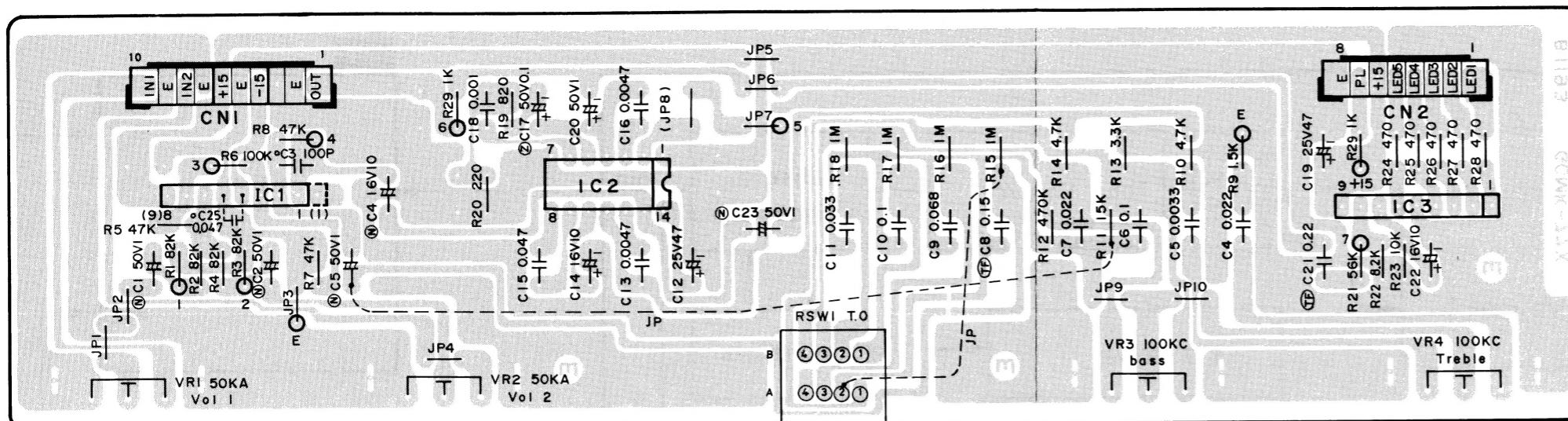
1 2 3 4 5 6 7 8 9 10

NETWORK CIRCUIT (NW)

10

SXPGB11931

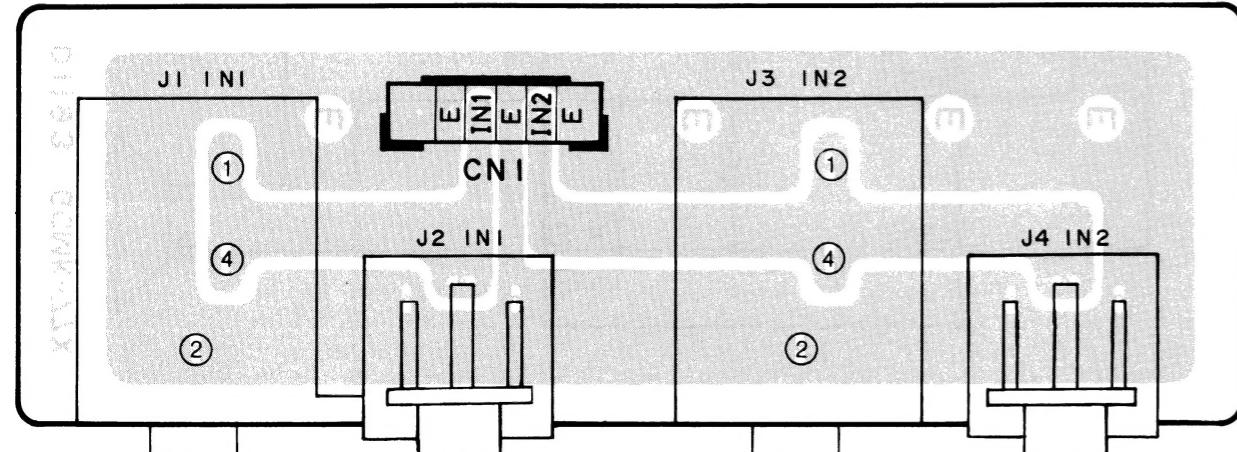
SXPGA11931



- NOTES:**
- IC'S
 - IC1: SVIGM5218L
 - IC2: SVIGLM1894N
 - IC3: SVIGBA6124

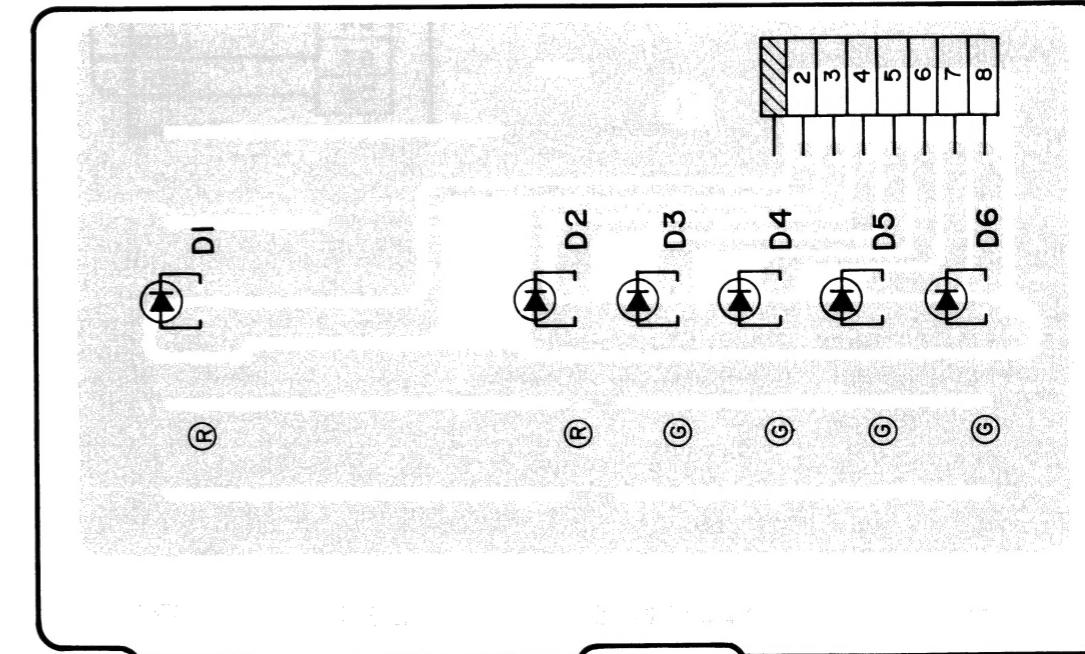
JACK CIRCUIT BOARD (JACK)

SXPGD11931



LOAD INDICATOR CIRCUIT BOARD (LI)

SXPGC11931



- NOTES:**
- DIODES
 - D1, 2: LN846RP
 - D3~6: LN346GP

NETWORK CIRCUIT (NW)

5

6

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8

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10

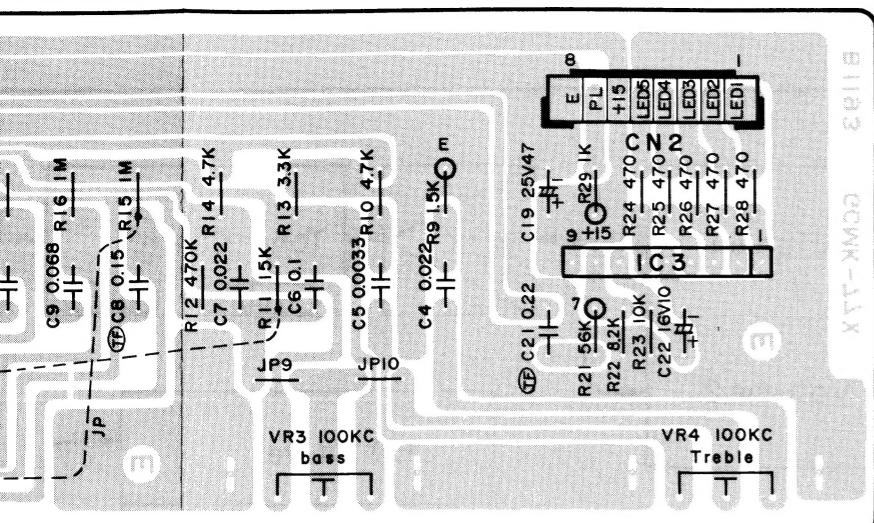
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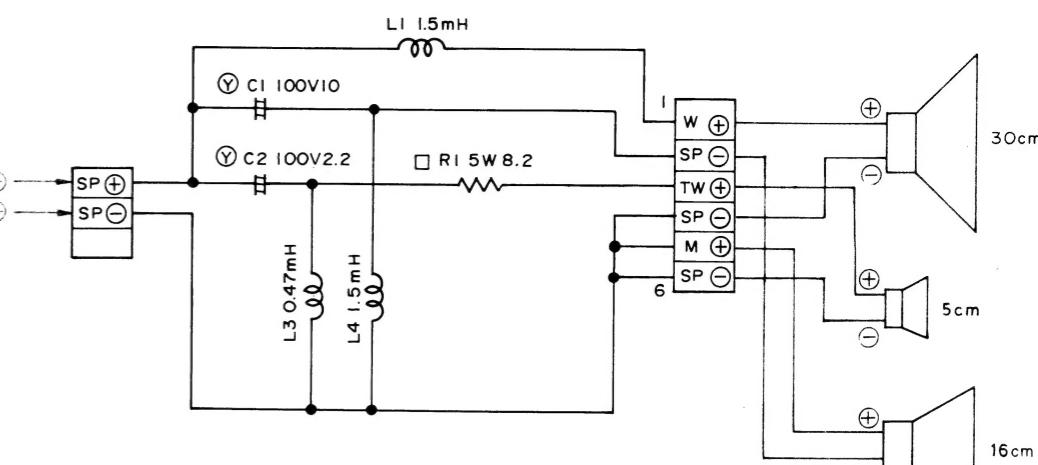
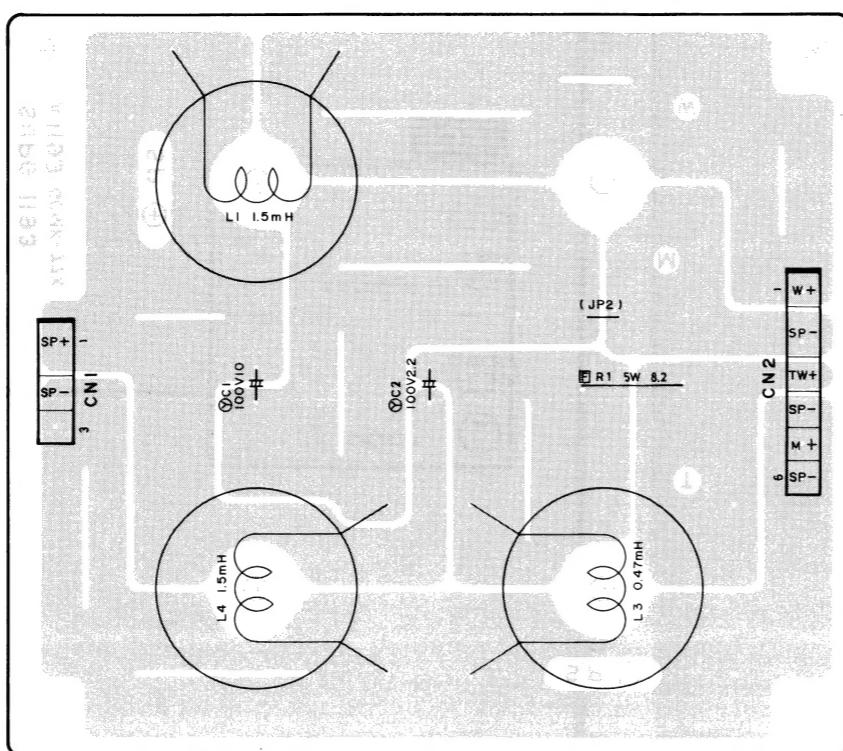
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SXPGB11931



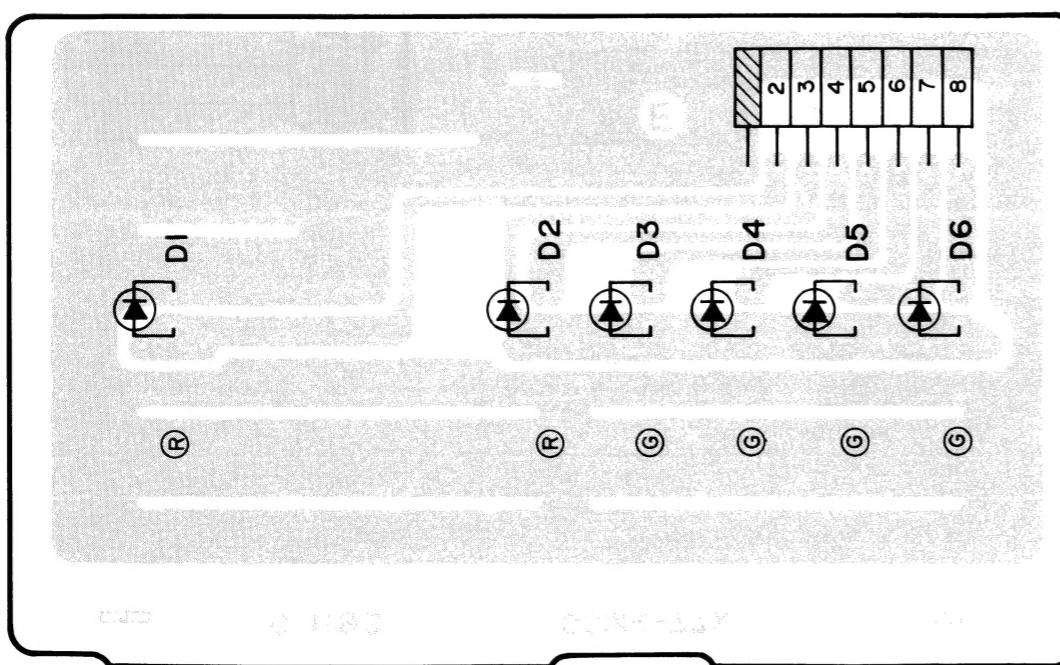
SXPGA11931



LOAD INDICATOR CIRCUIT BOARD (LI)

1931

SXPGC11931

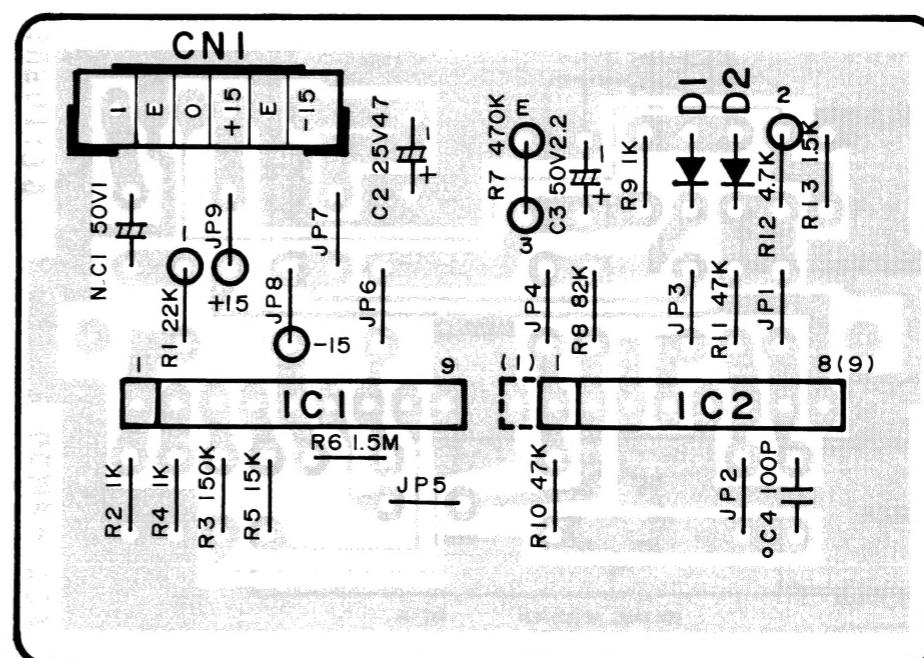


- NOTES:**
- DIODES
 - D1, 2: LN846RP
 - D3~6: LN346GP

II-5

COMPRESSOR CIRCUIT BOARD (CMP)

SXPGB11991

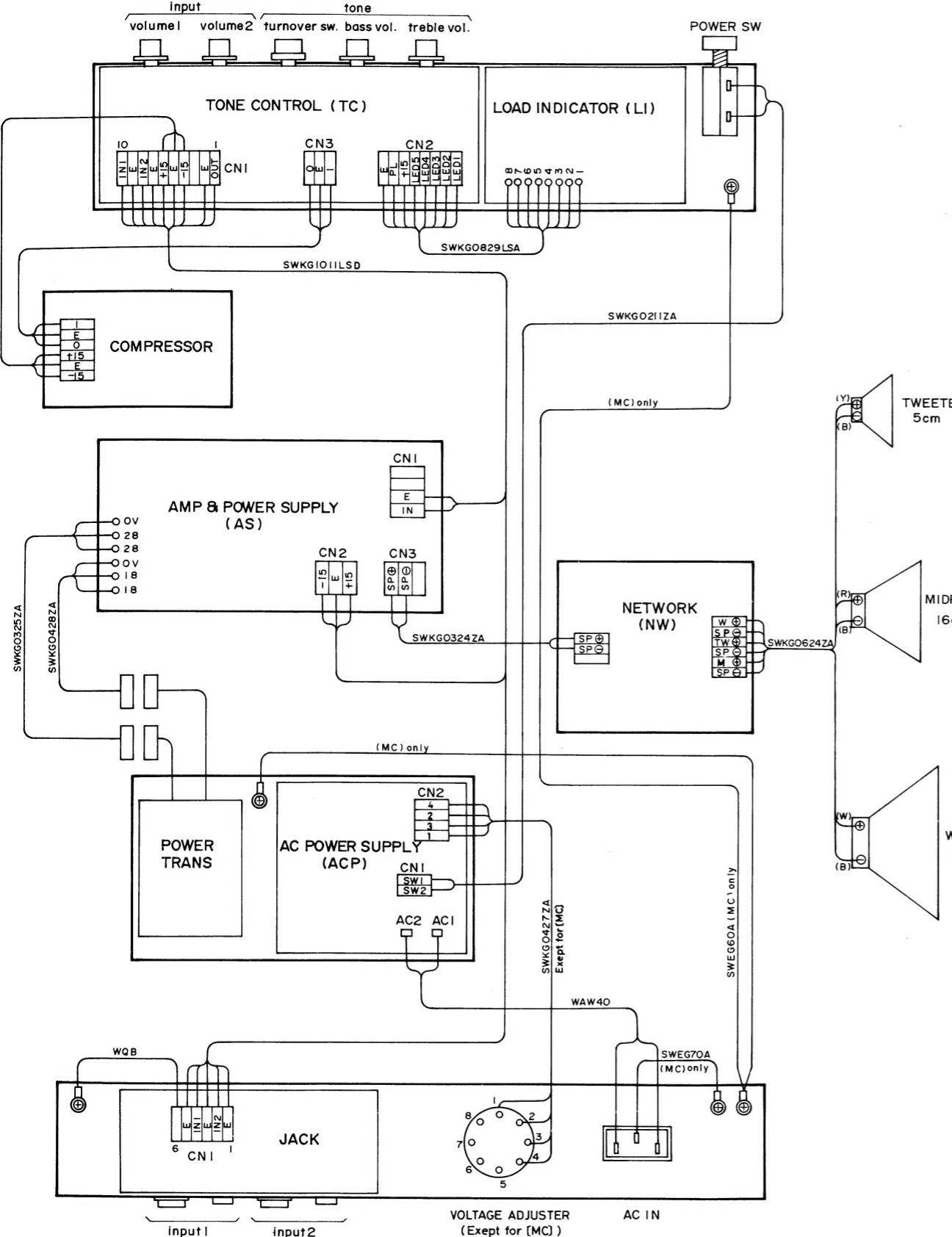


- NOTES:**
- IC'S
 - IC1: SVIGBA6110
 - IC2: SVIGM5218L
 - DIODES
 - D1, 2: MA165TA5VT

II-6

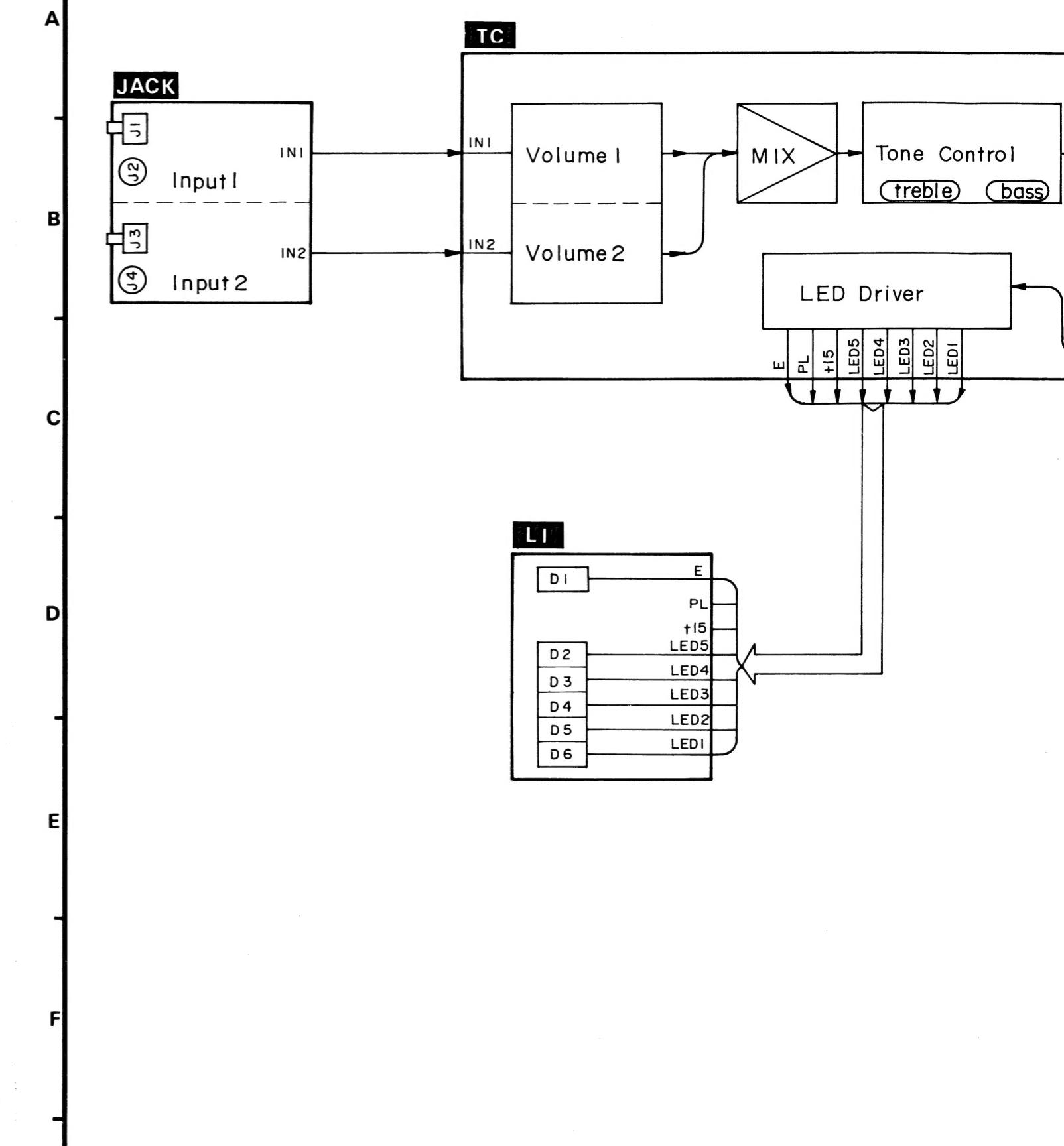
WIRING CONNECTION DIAGRAM

1 2 3 4 5



BLOCK DIAGRAM

1 2 3 4 5



BLOCK DIAGRAM

5

2

3

4

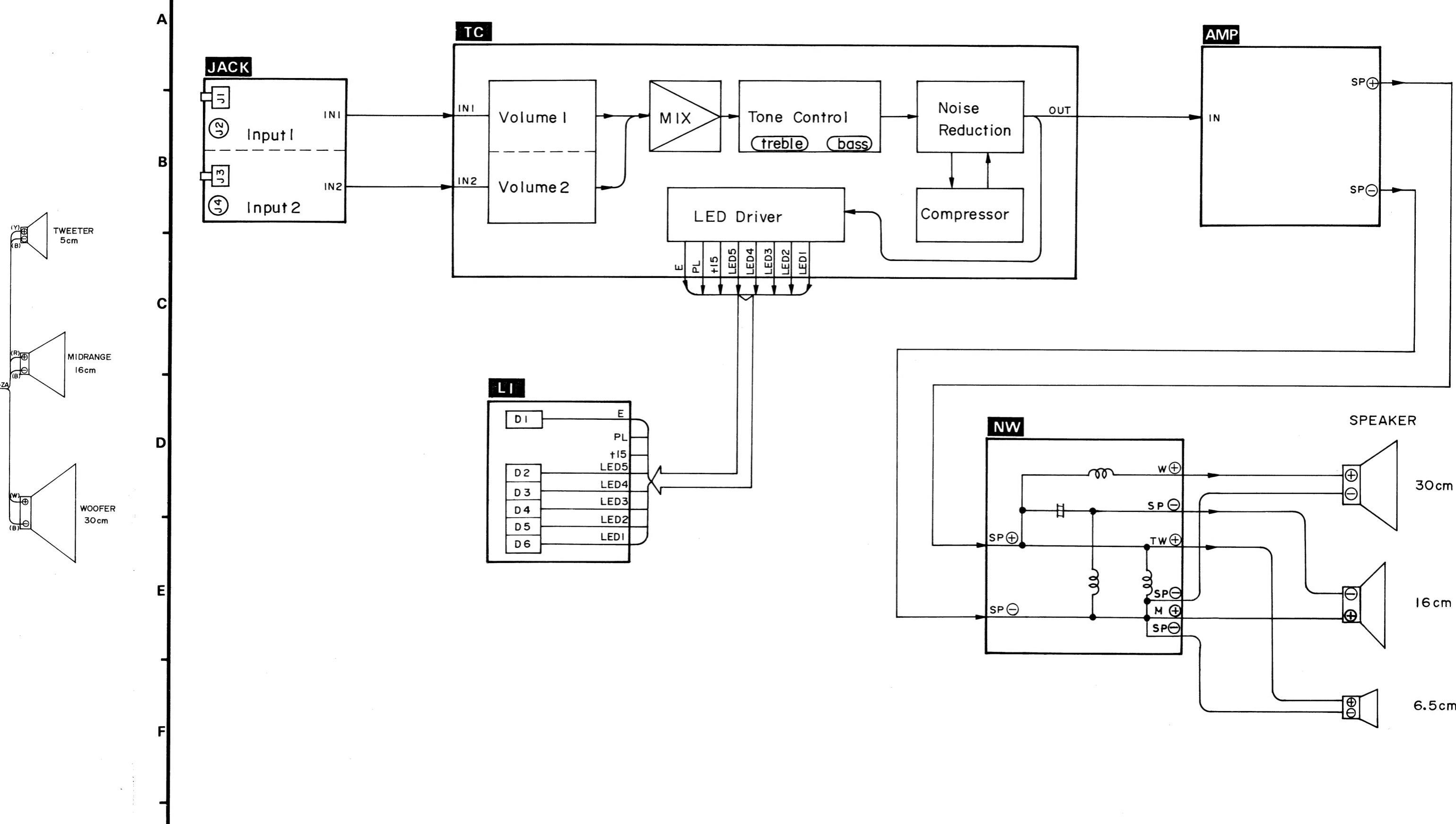
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II - 1

II - 2

II - 3

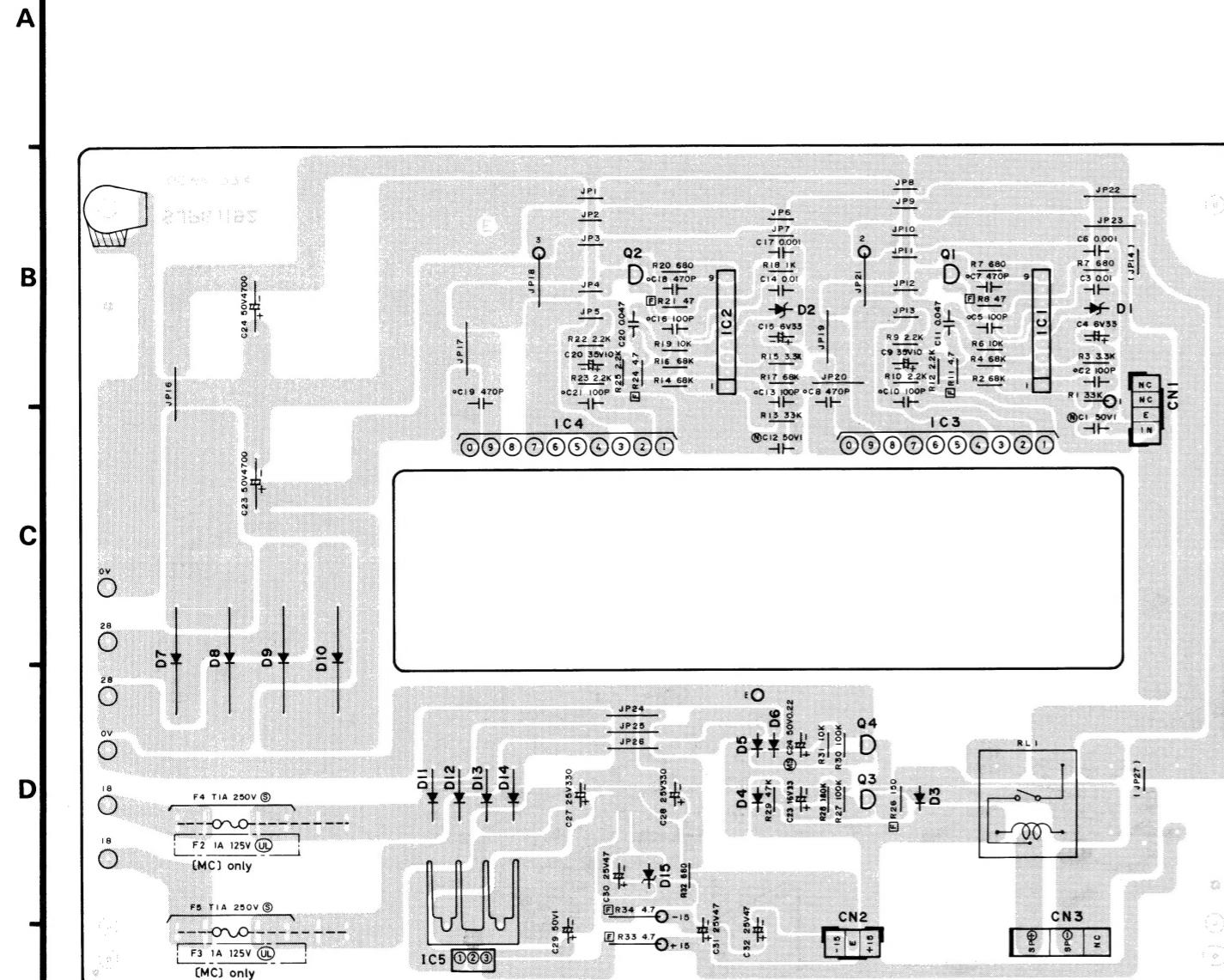
AMP & POWER SUPPLY CIRCUIT BOARD (AS)

1 2 3 4 5

SXPG11921

SXPG11922

* Products for [MC] only.



NOTES:

- IC'S
IC1, 2: AN7060
IC3, 4: SVIGS1050SL
IC5: AN7815

- TRANSISTORS
Q1, 2: 2SA1123RS
Q3: 2SD892QR
Q4: 2SC1318RS

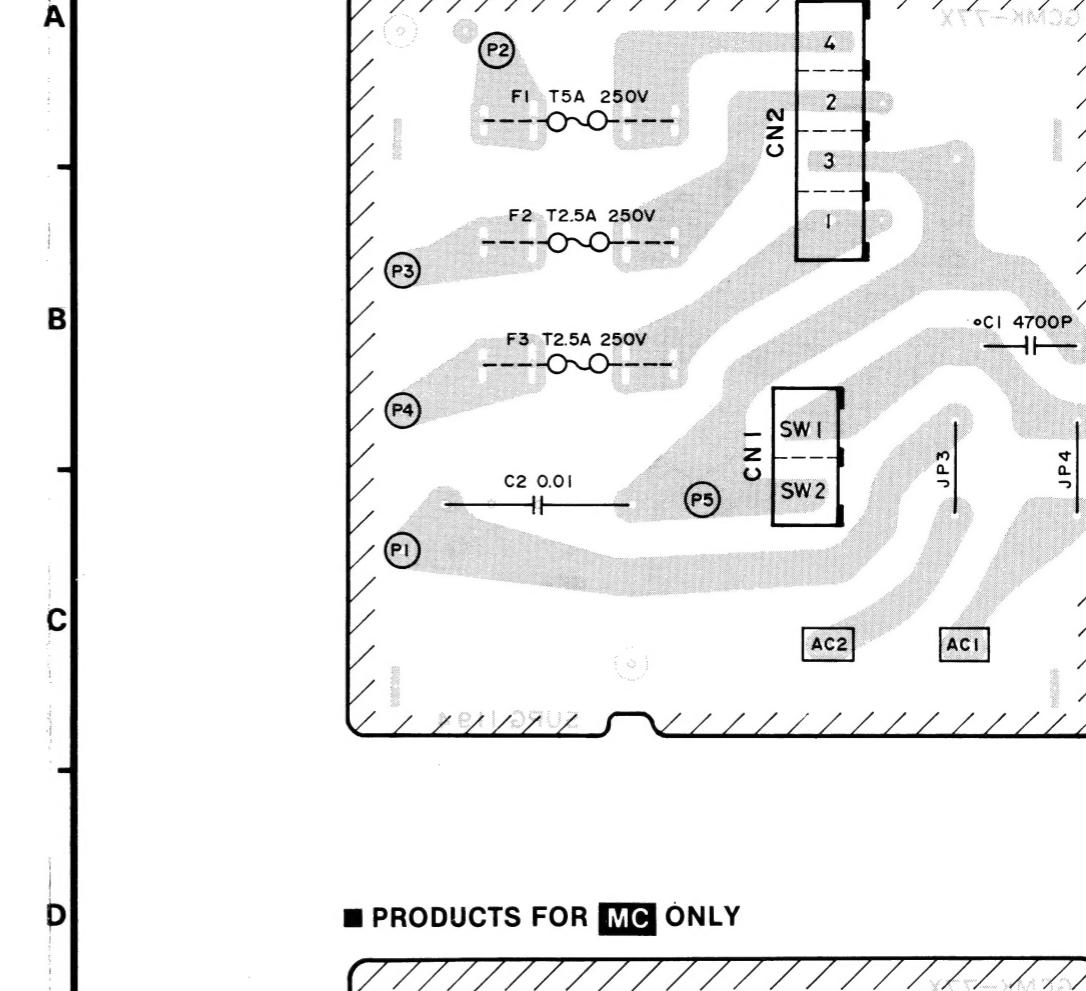
- DIODES
D1, 2: MA1062TR
D3~6: MA165TA5VT
D7~10: SVDS3V20
D11~14: SVDGSM1A02LF
D15: MA1150TR

- RELAY
RL1: SSYGMGR3112D

AC POWER SUPPLY CIRCUIT BOARD (ACP)

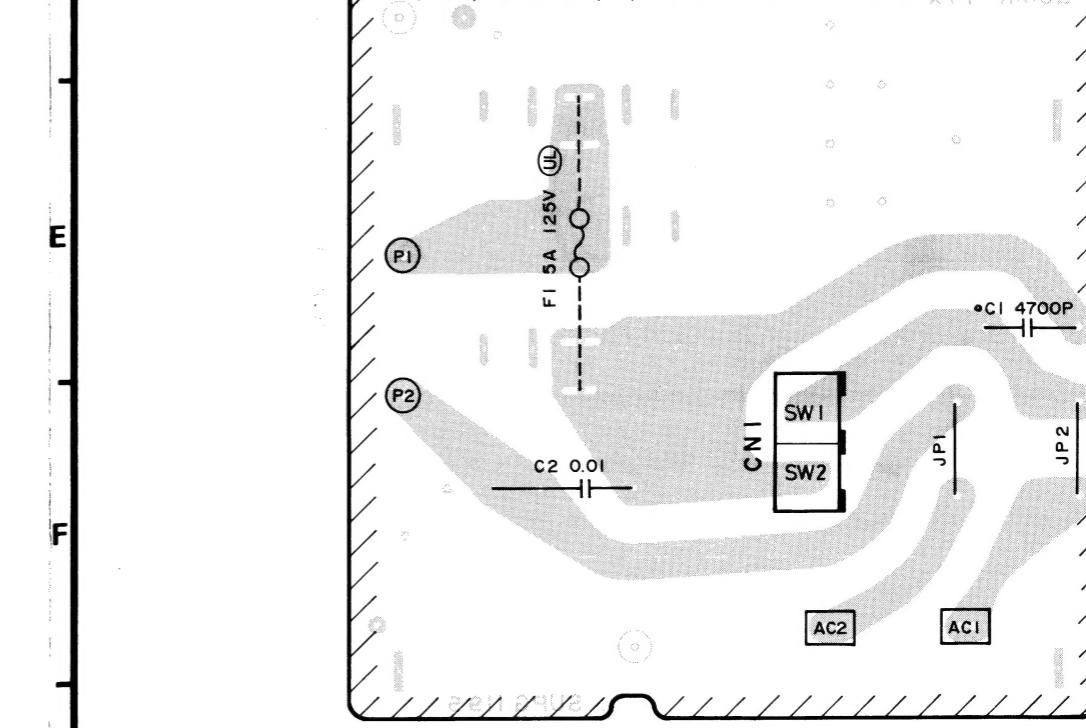
1 2 3 4

SXPG11941

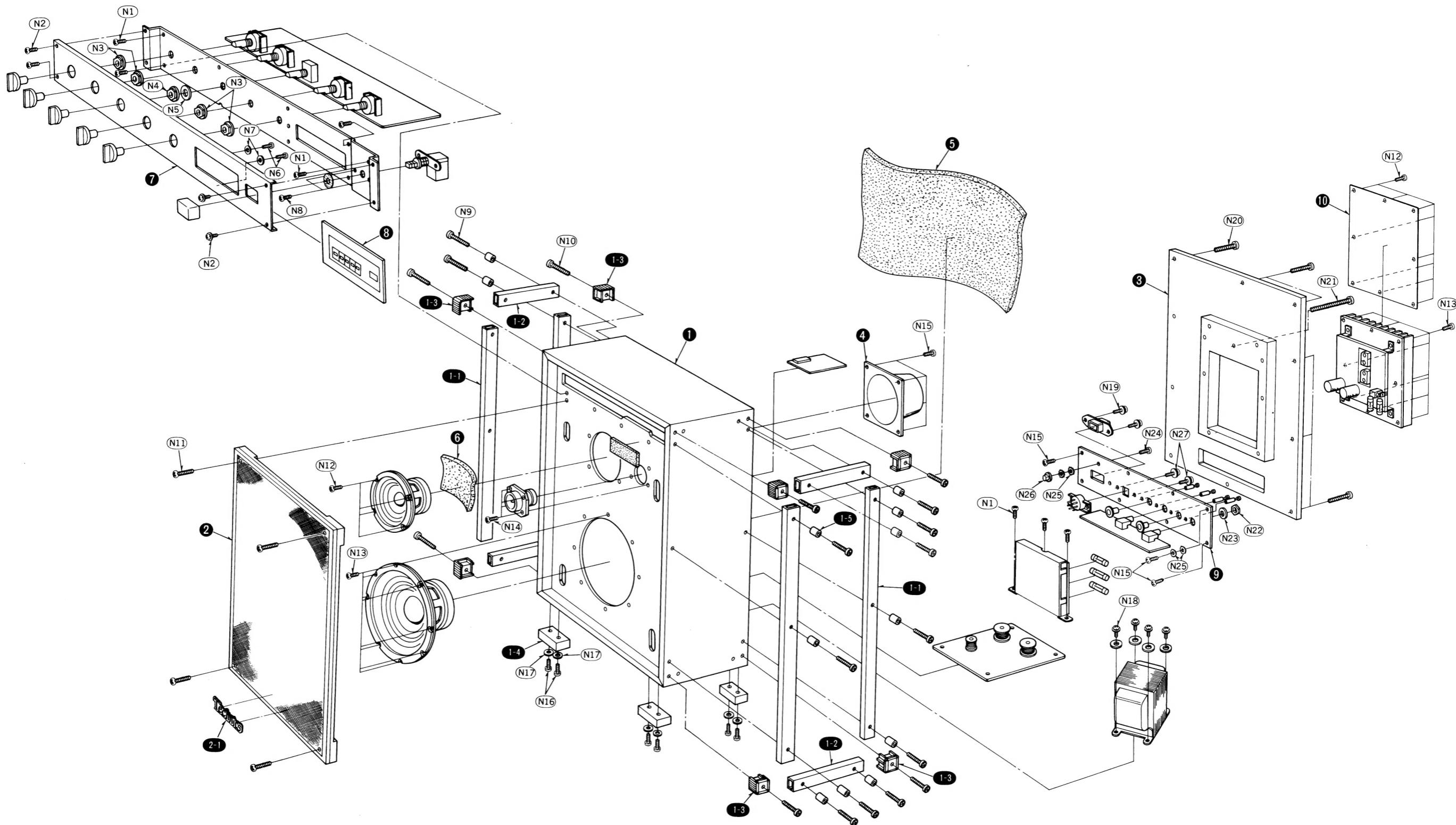


■ PRODUCTS FOR MC ONLY

SXPG11951



EXPLODED VIEWS OF CABINET



REPLACEMENT PARTS LIST

Notes:

1. Printed circuit boards are supplied only during the period of production.
2. Important safety notice
Components identified by **△** mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

3. O mark are new parts.

4. For part No. with area mark, check the area when placing an order.

■ ELECTRICAL PARTS

Part No.		Description	Per/ Set
PRINTED CIRCUIT BOARDS			
O	SXPGA11931	Network	1
O	SXPGB11931	Tone Control	1
O	SXPGC11931	Load Indicator	1
O	SXPGD11931	Jack	1
O	SXPG11991	Compressor	1
O	SXPG11921	Amp & Power Supply	1
O	SXPG11922	Amp & Power Supply, (MC) only	1
O	SXPG11941	AC Power Supply	1
O	SXPG11951	AC Power Supply, (MC) only	1
INTEGRATED CIRCUITS			
	SVIGM5218L	Operational Amplifier	TC, CMP
	SVIGLM1894N	Noise Reduction	TC
O	SVIGBA6124	LED Driver	TC
	SVIGBA6110	VCA (Voltage Controlled Amplifier)	CMP
O	SVIGS1050SL	Power IC	AS
	AN7815	Voltage Regulator	AS
	AN7060	Power Amp Driver	AS
TRANSISTORS			
	2SA1123R		2
	2SC1318S		1
O	2SD892QR		1
DIODES, LED'S			
	MA165TA5VT		6
	MA1062	Zener	2
	MA1150		1
	SVDGSM1A02LF	Rectifier	4
	SVDSV20	△ Rectifier	4
O	LN846RP	LED (red)	2
O	LN346GP	LED (green)	4
COILS			
O	SLCSC471KU	0.47mH Coil (Network)	1
O	SLCSC152KU	1.5mH Coil (Network)	2
SWITCHES			
	ESB70291S	△ Power Switch	1
	ESB70454T	△ Power Switch, (MC) only	1
O	SSRG50A	Turnover Switch	1
	ESE37209	△ Voltage Adjuster	1
VARIABLE RESISTORS			
O	EVA3225C15G	100KΩC, bass, treble	2
O	EVA0382554G	50KΩA, volume 1, volume 2	2

Part No.		Description	Per/ Set
JACKS			
	SJG30A	Input Terminal (pin jack)	2
	SJJG150A	Input Terminal (large jack)	2
	SJSG450A	AC Inlet	1
	SJSG460A	AC Inlet, (MC) only	1
RELAYS			
	SSYGMR3112D		1
SPEAKERS			
O	EAS30PL117S	30cm, 8Ω	1
O	EAS16PM24S	16cm, 8Ω	1
	EAS5HH60S	5cm, 6Ω	1
FUSES			
	XBA2C10TR0	△ 1A, 250V	2
	XBA2C50TR0	△ 5A, 250V	1
	XBA2C25TR0	△ 2.5A, 250V	2
O	XBA1F10NU14	△ 1A, 125V	2
O	XBA1F50NU14	△ 5A, 125V	1
TRANSFORMERS			
O	SLTG5S8	△ Power Transformer	1
O	SLTG5S9	△ Power Transformer, (MC) only	1
AC CORD, PLUG			
O	SJAG46	△ AC Cord	1
O	SJAG44	△ AC Cord, (MC) only	1
O	SJAG47	△ AC Cord, (EK, XS) only	1
O	SJAG48	△ AC Cord, (XL, XR) only	1
O	SJAG49	△ AC Cord, (EW) only	1
O	SJP5213-1	△ Attachment plug, (X, XX, XV, XT) only	1
WIRING PARTS			
O	SWKG1011LSD	Connector, with Wire	1
O	SWKG0324ZA	Connector, with Wire	1
O	SWKG0624ZA	Connector, with Wire	1
O	SWKG0325ZA	Connector, with Wire	1
O	SWKG0428ZA	Connector, with Wire	1
O	SWKG0211ZA	Connector, with Wire	1
O	WAW40	Wire	2
O	SWKG0427ZA	Connector, with Wire, Except for, (MC)	1
O	SWEG60A	Wire, with Earth Terminal, (MC) only	1
O	SWEG70A	Wire, with Earth Terminal, (MC) only	1

■ Numbering System of Resistor

Resistor Type	Wattage	Tolerance
ERD : Carbon	S2 : 1/4W	J : ±5%
ERD-F : Carbon Flame-Proof	2 : 1/4W 25 : 1/4W	K : ±10%
ERF : Wire Wound	5 : 5W	

Example

ERD	S2	T	J	101
Type	Wattage	Shape	Tolerance	Value
ERD	2	F	C	G 101
Type	Wattage	Flame Proof	Fuse Type	Tolerance Value
ERF	5	ZX	K	8R2
Type	Wattage	Shape	Tolerance	Value

■ Numbering System of Capacitor

Capacitor Type	Symbol Mark	Voltage		Tolerance
		ECEA Type	Others	
ECEA : Electrolytic	(N)	0J : 6.3V	1H : 50V DC	ECEA Type : ±20%
ECEA-N : Non-Polar Electrolytic	(Y)	1C : 16V		J : ±5%
ECEA-Y : Non-Polar Electrolytic	(MS)	1E : 25V		K : ±10%
ECEA-M : Electrolytic, MSR Series	(Z)	1V : 35V		M : ±20%
ECEA-Z : Electrolytic, Z Series	(TF)	1H : 50V		
ECQV : TF Capacitor	(O)	100Y : 100V		
ECC : Ceramic	O	50M : 50V		
ECK : Ceramic	O	50Z : 50V		
ECQM : Polyester				

Example	ECEA		U	330	
	Type	Voltage	Peculiarity	use	Value
ECEA	50	M (Z)	R47	R	
Type	Voltage	Peculiarity	use	Value	Special u
ECQV (M)	1H	102	J		
Type	Voltage	Value	Tolerance		
ECC (K)	R	1H	220	J	
Type	Shape	Voltage	Value	Tolerance	

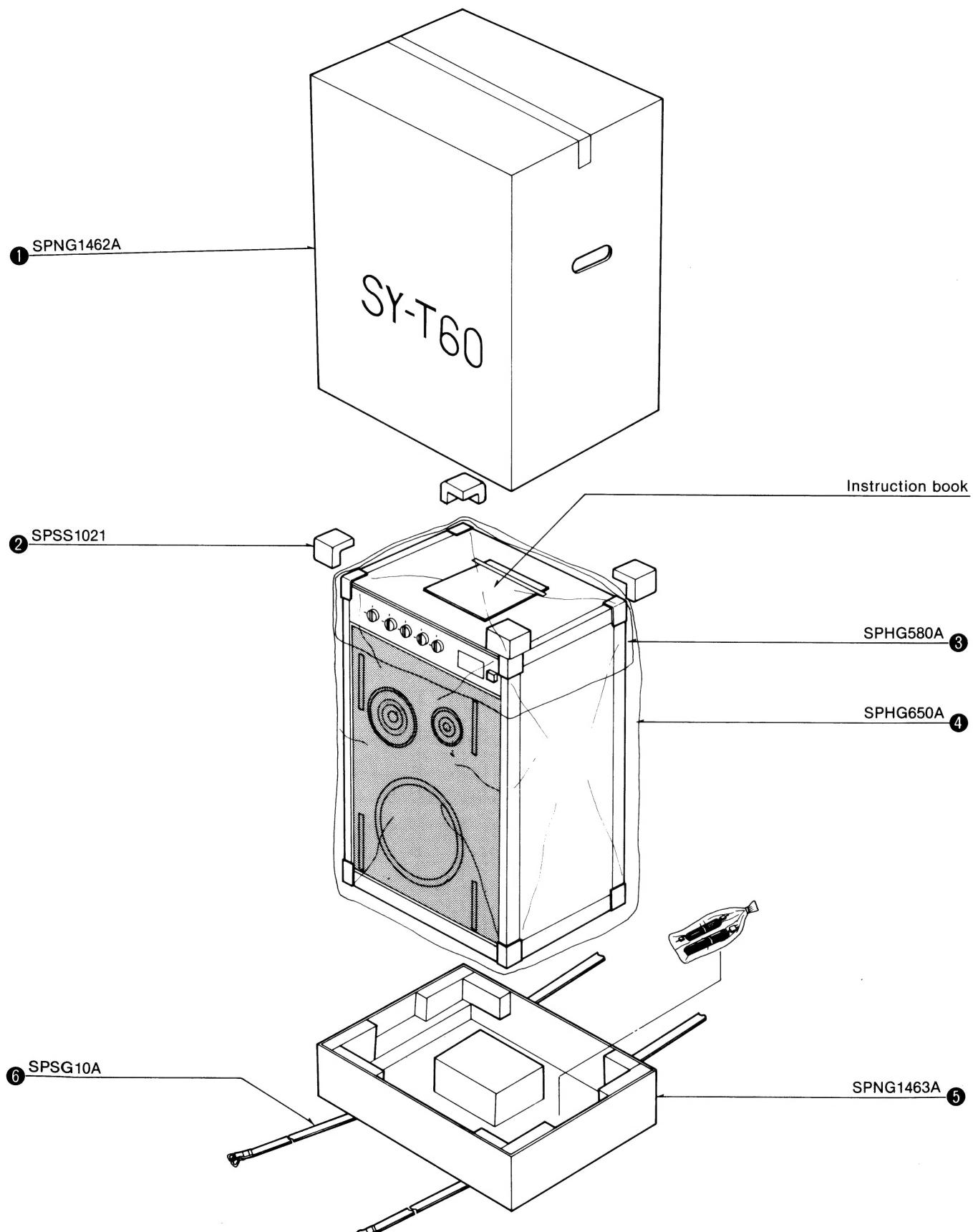
Part No.	Description	Per/ Set	Part No.	Description	Per/ Set
RESISTORS					
ERDS2TJ221	220Ω	1	ECEA0JU330	6.3V, 33μF	2
ERDS2TJ471	470Ω	5	ECEA1CU330	16V, 33μF	1
ERDS2TJ681	680Ω	3	ECEA1CU100	16V, 10μF	2
ERDS2TJ821	820Ω	1	ECEA1EU470	25V, 47μF	6
ERDS2TJ102	1KΩ	7	ECEA1EU331	25V, 330μF	2
ERDS2TJ152	1.5KΩ	2	ECEA1VU100	35V, 10μF	2
ERDS2TJ222	2.2KΩ	6	ECEA1HU010	50V, 1μF	3
ERDS2TJ332	3.3KΩ	3	ECEA1HU2R2	50V, 2.2μF	1
ERDS2TJ472	4.7KΩ	2	ECET50R472SW	50V, 4700μF	2
ERDS2TJ822	8.2KΩ	1	ECEA1CN100S	(N) 16V, 10μF	1
ERDS2TJ103	10KΩ	4	ECEA1HN010S	(N) 50V, 1μF	8
ERDS2TJ153	15KΩ	2	ECEA100Y2R2	(Y) 100V, 2.2μF	1
ERDS2TJ223	22KΩ	1	ECEA100Y10	(Y) 100V, 1μF	1
ERDS2TJ333	33KΩ	2	ECEA50ZR1	(Z) 50V, 0.1μF	1
ERDS2TJ473	47KΩ	6	ECEA50MR22R	(MS) 50V, 0.22μF	1
ERDS2TJ563	56KΩ	1	ECQM1H102KV	0.001μF	3
ERDS2TJ683	68KΩ	6	ECQM1H332KV	0.0033μF	1
ERDS2TJ823	82KΩ	5	ECQM1H472KV	0.0047μF	2
ERDS2TJ104	100KΩ	3	ECQM1H103KV	0.01μF	2
ERDS2TJ154	150KΩ	1	ECQM1H223KV	0.022μF	2
ERDS2TJ184	180KΩ	1	ECQM1H333KV	0.033μF	1
ERDS2TJ474	470KΩ	1	ECQM1H473KV	0.047μF	3
ERDS2TJ105	1MΩ	4	ECQM1H683KV	0.068μF	1
ERDS2TJ155	1.5MΩ	1	ECQM1H104KV	0.1μF	2
▲ ERD2FCJ4R7	█ 1/4W 4.7Ω, Fuse Type	2	ECQV1H154JZ	(TF) 0.15μF	1
▲ ERD25FVJ4R7	█ 1/4W 4.7Ω	2	ECQV1H224JZ	(TF) 0.22μF	1
▲ ERD25FVJ151	█ 1/4W 150Ω	1	ECCR1H101J5	(O) 100PF	8
▲ ERD25FVJ470	█ 1/4W 47Ω	2	ECCR1H471J5	(O) 470PF	4
▲ ERF5ZXK8R2	█ 5W 8.2Ω	1	ECKR1E473ZV	(O) 0.047μF	1
▲			▲ ECKCVA1472MF	○ 4700PF, Line Capacitor	1
▲			▲ ECQU1A103MH	0.01μF, 125V, Across the Line Capacitor (MC)	1
▲			▲ ECQU2A103MF	0.01μF, 250V, Across the Line Capacitor	1

■ MECHANICAL PARTS

■ PACKING PARTS

Ref. No.	Part No.	Description	Per / Set	Ref. No.	Part No.	Description	Per / Set
CABINET							
O 1 MC	SKMG880AS	Cabinet	1	O 1	SPNGT60EA	Packing Parts Assembly	1
O 1-1	SKMG890AS	Cabinet	1	O 2	SPNG1462A	Carton Box	(1)
O 1-2	SGXG1220A	Ornament Pipe	4	O 3	SPSS1021	Pad	(4)
O 1-3	SGXG1221A	Ornament Pipe	4	O 4	SPHG580A	Protection Cover	(1)
O 1-4	SHRG7260A	Corner Cushion	8	O 5	SPHG650A	Polyethylene Bag	(1)
O 1-5	SHRG2110A	Foot	4	6	SPNG1463A	Bottom Case	(1)
O 2	SUDG0070A	Spacer	20		SPSG10A	Band	(2)
O 2-1	SKZG4350A	Speaker Gurile Assembly	1				
O 3	SGBG60A	Technics Badge	1				
O 4	SKFG1090A	Rear Board Assembly	1				
O 5	SUVS5-1	Speaker Cover	1				
O 6	SHSG9150A	Sound Absorbing Material	1				
O 7	SHSG9160A	Sound Absorbing Material	1				
O 8	SGWG1400A	Control Panel	1				
O 9	SGKG2080A	Load Indicator Display Panel	1				
O 10	SMKG1680A	Jack Panel	1				
	SMKG1682A	Jack Panel, (MC) only	1				
	SGMG70A	Rear Net	1				
ACCESSORIES							
O	SQLG10A	Caster Assembly	1				
O	SJEG10A	Pin Cord (white)	1				
O	SJEG20A	Pin Cord (red)	1				
SCREWS and WASHERS							
N1	XTB35+12A	Screw					
N2	XTW3+8CFZ	Screw					
N3	SNES4004	Nut					
N4	XNS7	Nut					
N5	XWV8	Washer					
N6	XTW3+8J	Screw					
N7	XWA4B	Washer					
N8	XSN3+6S	Screw					
N9	SNZS9003-2FJ	Screw					
N10	SNES9003-2FG	Screw					
N11	SNEG580A	Screw					
N12	XTB4+12AFZ	Screw					
N13	XTB4+20AFZ	Screw					
N14	XTB35+20AFZ	Screw					
N15	XTB4+12A	Screw					
N16	XTB5+20A	Screw					
N17	XWG5G16	Washer					
N18	XYN5+F35S	Screw with Washers					
N19	XTB3+8BFZ	Screw					
N20	XTC4+30FZ	Screw					
N21	XTS4+70AFZ	Screw					
N22	XNS12FZ	Nut					
N23	SNEG770A	Washer					
N24	XTN4+10FFZ	Screw					
N25	XWC4BFN	Washer					
N26	SNE499-1	Nut					
N27	XYN3+F10FZS	Screw with Washers					
KNOB, BUTTON							
	SBNS9	Volume 1 • 2, turnover, bass, treble	5				
	SBCG20I	Power Switch	1				
INSTRUCTION BOOK							
O	SQFG1330		1				

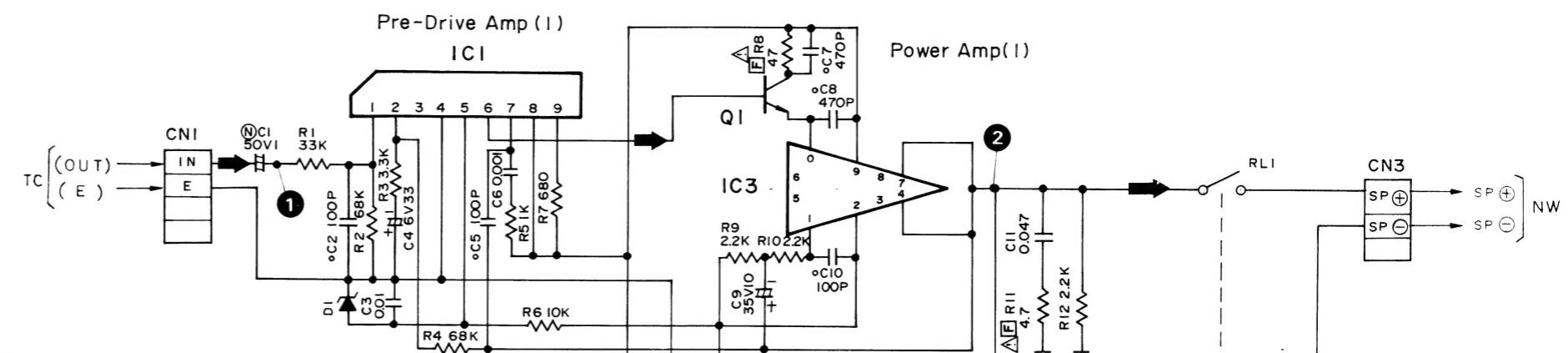
PACKING



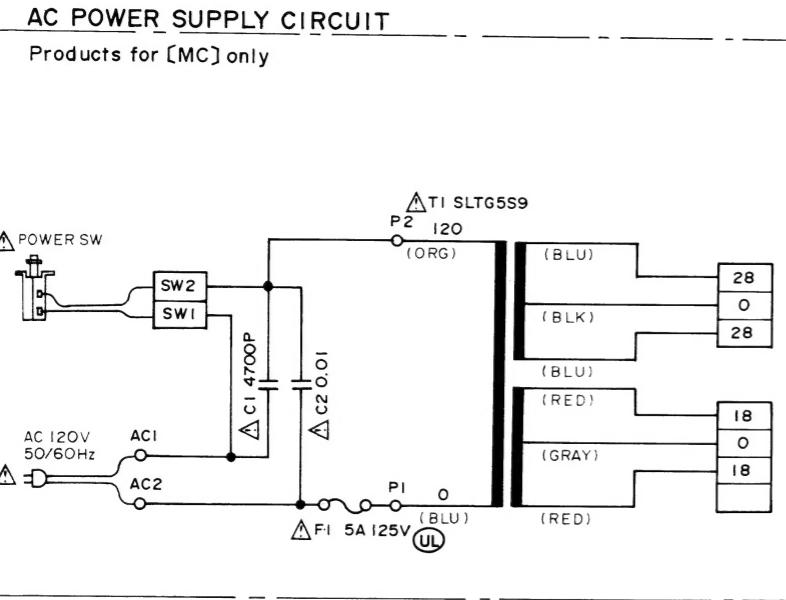
AMP & POWER SUPPLY CIRCUIT DIAGRAM (AS)

1 2 3 4 5 6 7 8 9

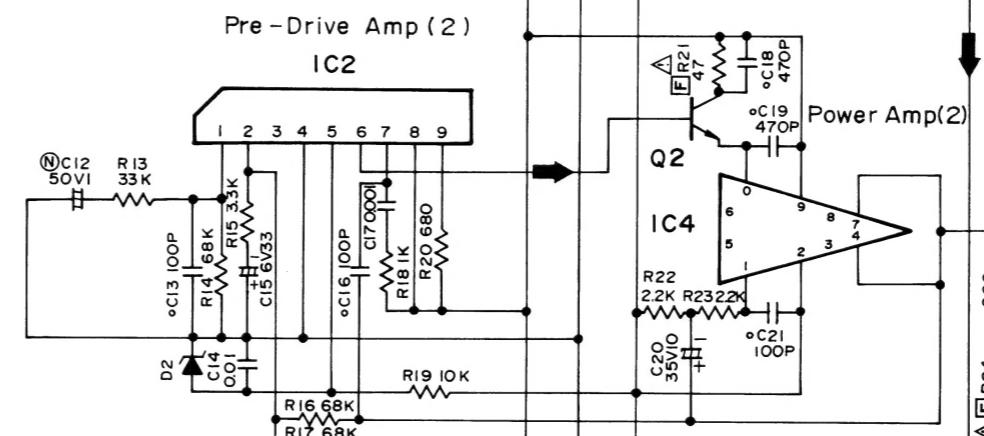
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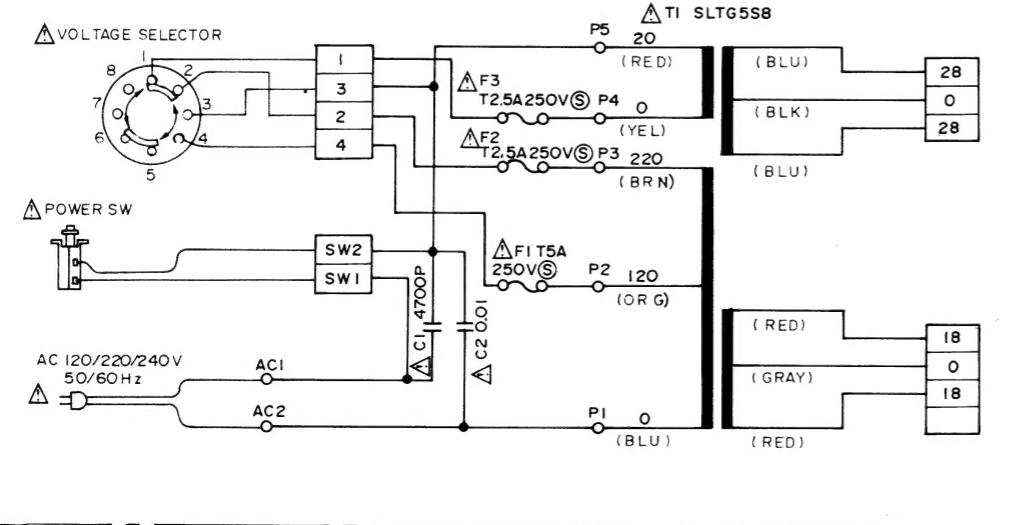
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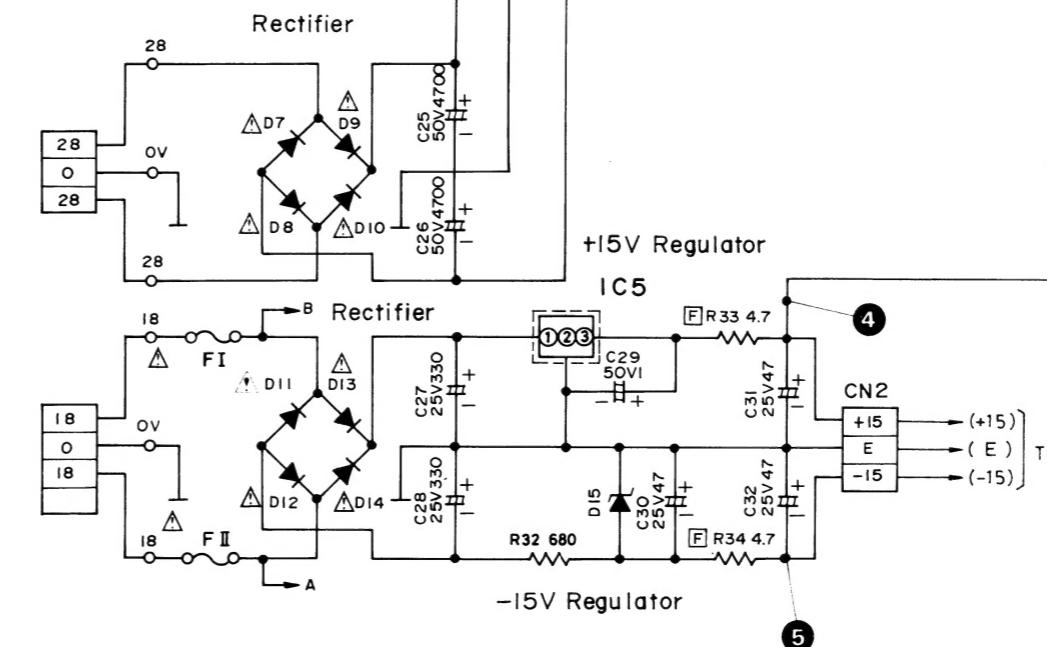
C



D



E



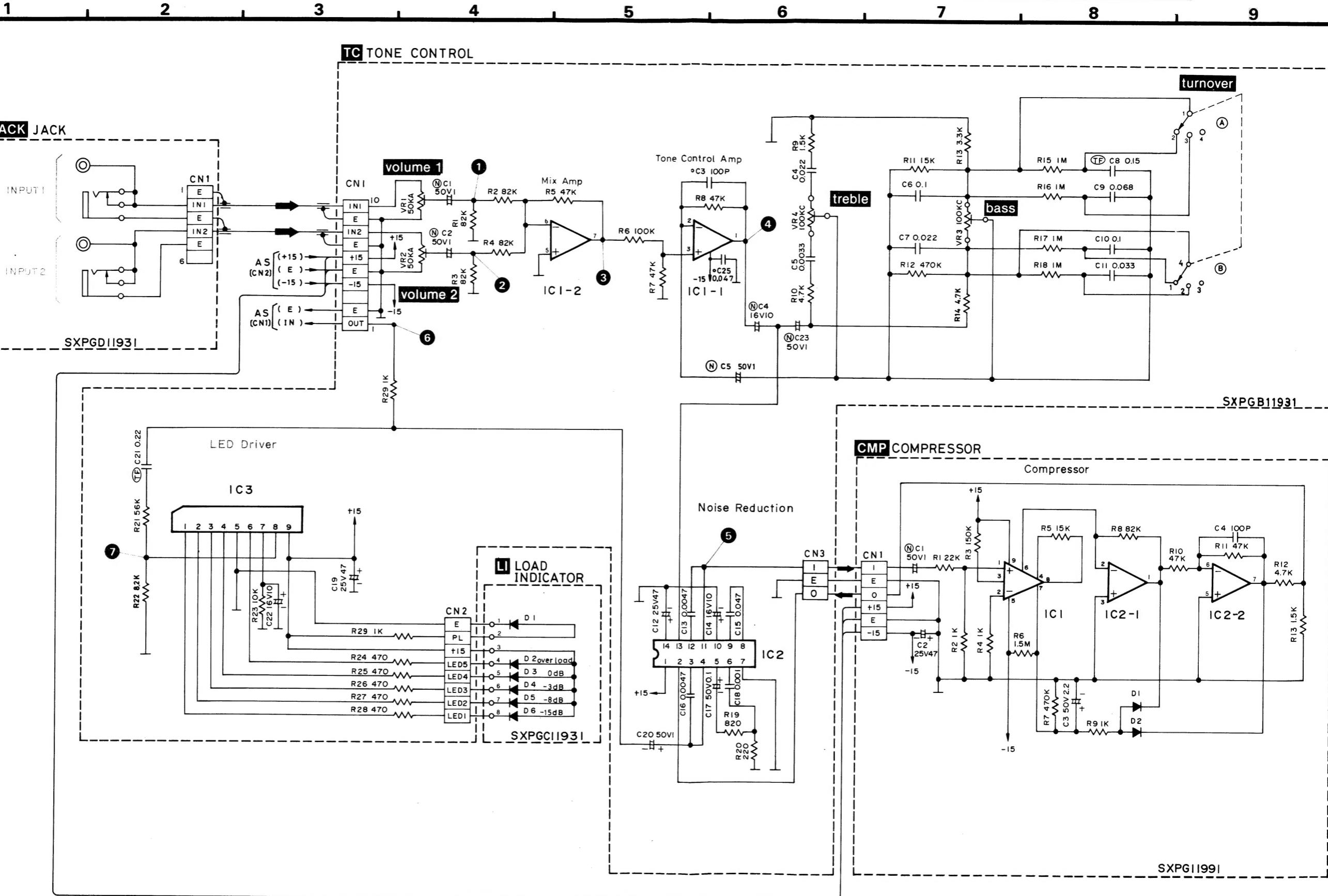
F

NOTES:

- IC'S
IC1, 2: AN7060
IC3, 4: SVIGS1050SL
IC5: AN7815
- TRANSISTORS
Q1, 2: 2SA1123RS
Q3: 2SD892QR
Q4: 2SC1318RS
- DIODES
D1, 2: MA1062TR
D3~6: MA165TA5VT
D7~10: SVDS3V20
D11~14: SVDGSM1A02LF
D15: MA1150TR
- RELAY
RL1: SSYGMR3112D

	SY-T60	SY-T60 [MC]
F I	F4 T1A 250V (S)	F2 1A 125V (UL)
F II	F5 T1A 250V (S)	F3 1A 125V (UL)

TONE CONTROL (TC), JACK (JACK), LOAD INDICATOR (LI), COMPRESSOR (CMP) CIRCUIT DIAGRAM



NOTES:

TC

- IC'S
- IC1: SVIGM5218L
- IC2: SVIGLM1894N
- IC3: SVIGBA6124

LI

- DIODES
- D1, 2: LN846RP
- D3~6: LN346GP

CMP

- IC'S
- IC1: SVIGBA6110
- IC2: SVIGM5218L
- DIODES
- D1, 2: MA165TA5VT